



**[4910-13-P]**

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-0337; Directorate Identifier 2010-SW-090-AD;**

**Amendment 39-17185; AD 2012-18-09]**

**RIN 2120-AA64**

**Airworthiness Directives; Bell Helicopter Textron Canada Helicopters**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for the Bell Helicopter Textron Canada Limited (BHTC) Model 407 helicopters. This AD requires you to replace tailboom-attachment hardware (attachment hardware), and perform initial and recurring determinations of the torque on the nuts of the tailboom-attachment bolts (bolts) at all four attachment locations. This AD was prompted by a review of the tailboom-attachment installation, which revealed that the torque value of the bolts specified in the BHTC Model 407 Maintenance Manual and applied during manufacturing was incorrect and exceeded the torque range recommended for the bolts. The actions required by this AD are intended to prevent an over-torque of a bolt, bolt failure, loss of the tailboom, and subsequent loss of control of the helicopter.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this AD, contact Bell Helicopter Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J1R4, telephone (450) 437-2862 or (800) 363-8023, fax (450) 433-0272, or at <http://www.bellcustomer.com/files/>. You may review the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137.

**EXAMINING THE AD DOCKET:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, any incorporated-by-reference service information, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations Office, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

**FOR FURTHER INFORMATION CONTACT:** Sharon Miles, Aerospace Engineer, FAA, Regulations and Policy Group, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone: (817) 222-5122; fax: (817) 222-5961; e-mail: [sharon.y.miles@faa.gov](mailto:sharon.y.miles@faa.gov).

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

On March 29, 2012, at 77 FR 18970, the Federal Register published our notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 to include an AD that would apply to BHTC Model 407 helicopters. That NPRM proposed to require replacing attachment hardware and performing initial and recurring determinations of the torque on the nuts of the tailboom-attachment bolts at all four attachment locations. The proposed requirements were intended to prevent an over-torque of a bolt, bolt failure, loss of the tailboom, and subsequent loss of control of the helicopter.

Transport Canada, which is the aviation authority for Canada, has issued Canadian AD No. CF-2010-33, dated September 30, 2010, to correct an unsafe condition for the BHTC Model 407 helicopters, serial numbers (S/N) 53000 through 53990. Transport Canada advises that a review of the tailboom-attachment installation determined that the torque value of the bolts specified in the BHTC Model 407 Maintenance Manual and applied during manufacturing, exceeded the torque range recommended for the bolts. Transport Canada states that this situation, if not corrected, could lead to a bolt failure, detachment of the tailboom, and subsequent loss of control of the helicopter.

### **Comments**

We gave the public the opportunity to participate in developing this AD, but we did not receive any comments on the NPRM.

## **FAA's Determination**

These helicopters have been approved by the aviation authority of Canada and are approved for operation in the United States. Pursuant to our bilateral agreement with Canada, Transport Canada, its technical representative, has notified us of the unsafe condition described in the Transport Canada AD. We are issuing this AD because we evaluated all information provided by Transport Canada and determined the unsafe condition exists and is likely to exist or develop on other helicopters of the same type designs and that air safety and the public interest require adopting the AD requirements as proposed.

## **Differences Between this AD and the Transport Canada AD**

The differences between this AD and the Transport Canada AD are as follows:

- This AD uses the term “hours time-in-service” to describe compliance times, and Transport Canada AD uses the term “air time”;
- For helicopters with 7000 hours or less TIS, the Transport Canada AD requires accomplishing the actions in the AD at the next scheduled 600-hour inspection or by December 31, 2010, whichever occurs first. This AD requires accomplishing the actions at the next scheduled 600-hour inspection or 90 days, whichever occurs first.
- This AD uses the term “determine the torque” when referring to the torque on a nut, and the Transport Canada AD uses the term “perform a torque check.”

## **Related Service Information**

BHTC has issued Alert Service Bulletin No. 407-10-93, Revision A, dated August 30, 2010 (ASB), which specifies installing new attachment hardware with a reduced torque value. This ASB specifies performing a torque check of the newly

installed bolts and nuts every one to five flight hours until the torque stabilizes at all locations, and thereafter at intervals not to exceed 300 flight hours. Transport Canada classified this ASB as mandatory and issued AD CF-2010-33 to ensure the continued airworthiness of these helicopters.

### **Costs of Compliance**

We estimate that this AD will affect 552 helicopters of U.S. registry. We estimate it will take about two work-hours per helicopter to replace the hardware and one work-hour per helicopter to determine the recurring torque value at an average labor rate of \$85 per work hour. Required parts will cost about \$498 per helicopter. Based on these figures, we estimate for the first year the total cost per helicopter to be \$923, and the total cost impact on U.S. operators to be \$509,496. This estimated total cost assumes attachment hardware will be replaced on all affected helicopters, the torque will be considered stabilized after determining the torque value once, and the 300-hour TIS recurring torque determination will be accomplished twice a year.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds

necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on helicopters identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866;
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared an economic evaluation of the estimated costs to comply with this AD and placed it in the AD docket.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

## **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2012-18-09 **BELL HELICOPTER TEXTRON CANADA (BHTC):** Amendment 39-17185; Docket No. FAA-2012-0337; Directorate Identifier 2010-SW-090-AD.

#### **(a) Applicability.**

This AD applies to BHTC Model 407 helicopters, serial numbers 53000 through 53990, certificated in any category.

#### **(b) Unsafe Condition.**

This AD defines the unsafe condition as an incorrect torque value of the tailboom attachment bolt (bolt) specified in the BHTC Model 407 Maintenance Manual and applied during manufacturing, which exceeds the torque range recommended for the bolts. This condition could result in an over-torque of the bolt, bolt failure, loss of the tailboom, and subsequent loss of control of the helicopter.

#### **(c) Effective Date.**

This AD becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(d) Compliance.**

You are responsible for performing each action required by this AD within the specified compliance time unless accomplished previously.

**(e) Required Actions.**

(1) For helicopters with 7000 hours or less time-in-service (TIS), at the next 600 hours scheduled inspection, or 90 days, whichever comes first; and for helicopters with more than 7000 hours TIS, within 150 hours TIS or 90 days, whichever comes first, replace the tailboom-attachment hardware (attachment hardware) as follows:

(i) Remove the left upper bolt, washers, and nut.

(ii) Install a new bolt, part number (P/N) NAS627-30; washer, P/N 140-007-29S25E6; washer(s), P/N NAS1149G0732P; and new nut, P/N 42FLW-720 in accordance with paragraphs 2.a) through paragraph 3.e) of the “Accomplishment Instructions: Replacement of tailboom attachment bolts and nuts” section and Figure 2 in the BHTC Alert Service Bulletin No. 407-10-93, Revision A, dated August 30, 2010 (ASB).

(iii) Remove the opposite right upper bolt, washers, and nut, and accomplish the requirements in paragraph (e)(1)(ii) of this AD.

(iv) Remove the left lower bolt, washers, and nut.

(v) Install a new bolt, (P/N) NAS626-26; washer, P/N 140-007-25S22E6; washer(s), P/N NAS1149G0663P; and new nut, P/N 42FLW-624 in accordance with paragraphs 6.a) through 7.e) of the “Accomplishment Instructions: Replacement of tailboom attachment bolts and nuts” section and Figure 2 in the ASB.

(vi) Remove the right lower bolt, washers, and nut, and accomplish the requirements in paragraph (e)(1)(v) of this AD.

(2) After installation of the new attachment hardware, at intervals of not less than 1 hour TIS but not exceeding 5 hours TIS, determine the torque of each nut until the



torque stabilizes at each attachment location, referring to Figure 2 of the ASB. Apply the minimum specified torque of the range, plus the minimum acceptable tare torque of 14 inch/lbs (1.58 Nm) for the upper nuts, and 9.5 inch/lbs (1.07 Nm) for the lower nuts.

(3) At intervals not to exceed 300 hours TIS, determine the torque of each of the four attachment nuts, referring to Figure 2 of the ASB. Apply the minimum specified torque of the range plus the minimum acceptable tare torque of 14 inch/lbs (1.58 Nm) for the upper nuts, and 9.5 inch/lbs (1.07 Nm) for the lower nuts. If the proper torque has not been retained since the last torque determination, remove and inspect the tailboom assembly for damage, corrosion, improper assembly, and condition. If the tailboom assembly is airworthy, replace the attachment hardware in accordance with the requirements in paragraphs (e)(1)(i) through (e)(1)(vi) and determine that the torque has stabilized in accordance with paragraph (e)(2) of this AD. Replace any unairworthy tailboom assembly with an airworthy tailboom assembly.

**(f) Alternative Methods of Compliance (AMOCs).**

(1) The Manager, Safety Management Group, FAA, may approve AMOCs for this AD. Send your proposal to: Sharon Miles, 2601 Meacham Blvd., Fort Worth, Texas 76137; telephone: (817) 222-5122; fax: 817-222-5961; e-mail: [sharon.y.miles@faa.gov](mailto:sharon.y.miles@faa.gov).

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office, before operating any aircraft complying with this AD through an AMOC.

**(g) Additional Information.**

The subject of this AD is addressed in the Transport Canada Civil Aviation (TCCA) AD CF-2010-33, dated September 30, 2010.

**(h) Subject.**

Joint Aircraft Service Component (JASC) Code: Rotorcraft tailboom.

**(i) Material Incorporated by Reference.**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Bell Helicopter Textron Canada Limited Alert Service Bulletin No. 407-10-93, Revision A, dated August 30, 2010.

(ii) Reserved.

(3) For service information identified in this AD, contact Bell Helicopter Textron Canada Limited, 12,800 Rue de l'Avenir, Mirabel, Quebec J7J1R4, telephone (450) 437-2862 or (800) 363-8023, fax (450) 433-0272, or at <http://www.bellcustomer.com/files/>.

(4) You may review a copy of this service information at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas 76137. For information on the availability of this material at the FAA, call (817) 222-5110.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the

availability of this material at NARA, call (202) 741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Fort Worth, Texas, on August 30, 2012.

Kim Smith,

Manager, Rotorcraft Directorate,  
Aircraft Certification Service.

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